**Supplementary Information**

**Supplementary Figure 1.** Bead loading efficiency as a function of bead concentration and time. (A) Plot of the fraction of wells occupied by a single bead (“bead loading efficiency”) as a function of the number of beads in 15 μL loaded. Fluorescent beads were loaded into the polymer array assemblies and settled by gravity for 2 min; 68,857 wells of the fluorescently imaged arrays were analyzed. (B) Plot of the fraction of wells occupied by a single bead as a function of the settling time for 500,000 beads in 15 μL loaded into the polymer array assemblies. Error bars represent standard deviations in bead loading efficiency over three arrays.